

Elena ARRANZ



Institution: Teagasc Food Research Centre

Academic Mentor: Dr Linda Giblin

Commercial Partner: Kerry Group

Commercial Mentor: Cal Flynn

Elena earned her PhD in Food Science at the Autónoma University of Madrid. Her project explored the anti-inflammatory properties of natural aromatic plant extracts to design specific food with beneficial health properties.

She previously worked as Postdoctoral Fellow in the area of delivery systems and bioactivity of functional ingredients in the Department of Food Science at the University of Guelph (Canada).

In 2016, she joined Dr Linda Giblin's group in Teagasc to pursue her career in the health benefits of dairy.

Her Marie Skłodowska-Curie project on beverage formulation that improves health benefits using bioactive synergies (Food-BIBS) aims to deliver next-generation nutritional beverages for the elderly and for athletes.

See case study overleaf

Dr Linda Giblin

Dr Giblin is a senior scientist at Teagasc in Moorepark, leading a research group with interests in food bioactives, food bioavailability and intestinal barrier function. She has been Coordinator/Principal Investigator on national and EU-funded projects including Food for Health Ireland. She is an associate editor for *Journal of Functional Foods* and a work group co-leader of EU-Cost Action CA16112 NutRedOx.

Cal Flynn

Cal Flynn has 40 years' experience in the food industry, initially managing a chemical analysis laboratory and later, managing and setting quality assurance standards. He went on to lead product development teams for ingredient and retail consumer products. He has launched several new products and product manufacturing lines and now works in a senior management role at Kerry Group leading the product innovation team, with a focus on Nutrition and Taste.

Teagasc

Teagasc supports science-based innovation in the Agri-food sector and broader bio-economy offering innovations and solutions for the Irish food industry. Its Food Research programme includes: 41 scientists, 16 technical staff, 80 contract scientists and 150 post-graduate students.

Kerry Group Ltd

Kerry Group is global leader in food, beverages and pharmaceuticals; and a leading supplier of chilled food products to Irish and International markets. It employs over 800 R&D scientists and is the world's biggest and most technologically advanced developer of taste and nutrition solutions.

Elena's project

In the past decade there has been an increasing drive to develop functional foods with health benefits beyond simple nutrition. The Food-BIBS project (Beverage formulation that Improves health Benefits using Bioactive synergies), aims to take a step forward by designing functional beverages with combinations of bioactives, targeted at the older consumer and the athlete.

Older adults have unique dietary requirements and ageing is associated with physiological changes that affect ease of digestion, appetite, muscle-loss and the ability to fight colds and flu. Food-BIBS will investigate the effect of combining known bioactives to deliver a 'super-shot' in a beverage.

A second focus is the special nutritional requirements of athletes. Muscle-repair and improved performance are the basis of sport nutrition. Lately however, scientists are also aiming to boost immune health after strenuous exercise. Food-BIBS will combine known bioactives to develop a beverage formulation for athletes tackling both muscle health and immunity.

A primary focus of Food-BIBS is to follow these bioactive combinations during gut transit and prove they reach their target organs. Formulation of the beverages will be at pilot-plant scale, so process maps can be easily translated to the industry partner. The secondment to industry will look at cost-effective, large-scale processing and sensory acceptance of the beverages.
